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Communicated for "The Friend."

Two Lectures on the History of Literature, with a brief sketch of the various materials made use of for the preservation of Knowledge.

LECTURE FIRST.

(Continued from p. 291.)

The works of the earliest authors which have descended to us, are in a poetical form. From the symbolical character of the times, the poetry of imagery might be looked for, but is it not remarkable, that early literature should have trammelled itself with "an artificial division of sentences, and those minor elegancies of style which promote the harmony of rhythm." This form was, however, well adapted to facilitate the preservation of compositions, which could have no other repository than the memory of hearers. The difficulty of accurately retaining prose in remembrance may in part account for the fact, that poetical works alone survived to that period at which the invention of written characters furnished the means of recording them for posterity. Perhaps, however, it was those only who had a keen perception of the unwritten poetry of the universe, and who were sensitively alive to the harmony of measured sounds, who felt within them that stirring of intellect and feeling which led to composition. However this may be, "poetry," to use the words of a poet, "was the first fixed form of language, the earliest perpetuation of thought. It existed before prose in history, before music in melody, before painting in description, and before sculpture in imagery. Anterior to the discovery of letters, it was employed to communicate the lessons of wisdom, to celebrate the achievements of valour, and to promulgate the sanctions of law."

From figures symbolical of things, the next step was to such as were representative of sounds. What nation had an alphabet first in use amongst them cannot now be ascertained. The Greeks ascribe the invention to the Phenicians, but the weight of evidence seems greatly in favour of the Egyptians or Assyrians. Of this, at least, we are certain, that the most ancient alphabetic inscriptions to which we have access, and which date from a period of time anterior to the fabled invention of Cadmus, are found amongst the monuments of the Pharaohs, and on the bricks from the ruins of Babylon. The introduction and simplification of the alphabetic characters in any country, was probably the work of centuries, and due to the inventive genius of a nation rather than of an individual.

Champollion has traced a gradual change in the inscriptions of Egypt:—first, characters purely symbolical, passing into conventional, and thence into a series of signs having reference only to sound. At first, the figures made use of were the absolute representatives of visible objects, which, to increase the facility of composition, became, in time, reduced to a few marks, bearing little or no resemblance to their originals. Moses Stuart, in a note to Greppo's Essay on the hieroglyphic system, says, "one need only to read the interpretation of the names of the Hebrew alphabet successively, in order to believe that, originally, there was some analogy between the shape of the respective letters, and the objects by whose names they are called. For example, beginning with the alphabet, we proceed thus: ox, house, camel, hollow, hook, arrow, travelling-scrip, serpent, hand, hollow-hand, ox-goad, water, fish, prop, eye, mouth, screech-locust, ear, head, tooth, cross. These make out the whole original alphabet of the Hebrews; and no one can suppose that these names, rather than others, were given to the letters, except on account of some resemblance between them and the objects which bore these names."

Having thus briefly touched on the origin of letters, the next subject of inquiry will be the material on which they are most commonly inscribed. We find Job, who is supposed to have partaken of his cup of affliction and sorrow in the days of the patriarch Abraham, thus pouring out the anguish of his soul. "Oh that my words were now written! oh that they were printed (or traced out) in a book! that they were graven with an iron pen and lead in the rock for ever." At first the alphabetic characters were much confined to public monuments, and the letters were engraven upon stone and brick, or inscribed upon plates of metal or blocks of wood. The bark and the leaves of various kinds of trees soon came into use, and were employed to receive compositions whose durability was of less consequence to the public. Palm leaves in particular were at a very early period devoted to literature, and of these the first books appear to have been composed. These consisted of a number of leaves sufficient to contain an historical record or a poem, strung together on a cord. In conformity with the above quotation from Job, they engraved upon rocks with an iron chisel, and wrote upon wood, bark, and leaves, with a style or sharp-pointed instrument. The impression of the letters, thus traced out, were rendered more legible by being filled up with a composition of pounded charcoal and oil. We know nothing of the materials employed by the ancient Assyrians for their historical and literary records, except their tiles and bricks. Many of these, dug out of the ruins of Babylon, are in the British Museum. Egypt has preserved, in the sealed solitude of her pyramids, and in the dark recesses of her city of the dead, (Necropolis,) many testimonies to the state of the arts and sciences of the elder time.

The investigations of a Champollion and others, during the few last years, in lifting up the curtain from Egyptian history, have brought amusement for the curious, knowledge for the student, satisfaction for the Christian believer, and confusion to the infidel. When Volney, wandering amid the then voiceless hieroglyphics, declared that they needed but a Daniel to interpret them to prove that the evidences of the Christian religion had been weighed in the balance, and found wanting; when he presumed to say that the sacerdotal colleges of Egypt had been founded more than 13,000 years before the Christian era, he little thought that these monuments of antiquity would find a tongue to bear witness against the falsehoods of his pen. The ever varying spirit of infidelity urged a sneering Voltaire to declare that in the time of Moses no written character but the hieroglyphic was known, and that no mode of producing it but that of engraving on polished stone, brick, lead, or wood was practised. Having made this assertion, he proceeds—first, to deny the possibility of the Hebrews at that time writing at all, and then scoffingly enters into a calculation as to the amount of rock, metal, and wood which would be required for a hieroglyphic inscription sufficient to convey all the writings of Moses. He wist not of that discovery which, by throwing sunshine on the past history of Egypt, has dissolved the darkness which had proved to the imaginative infidel a refuge of lies. The tongue which now speaks from those records, confirms the truth of the sacred volume, both as to the history of kingdoms and the literature of ages. Those records which Volney fancied must go back through twice ten thousand years, are, in truth, in harmonious concord with the writings of Moses, and commence posterior to Noah. The assertion of Voltaire has an equally satisfactory answer, not only from ancient paintings, which represent scribes and clerks engaged in the very act of writing, but from rolls of papyrus, containing particular judicial acts of monarchs, written 200 years before the exode from Egypt. These rolls, of which multitudes

have been taken from the place of the tombs to give knowledge and instruction to the living, have settled the very early use of papyrus as a writing material beyond a doubt. Thus we find placed in the hands of Moses, a light, convenient paper, of which a few pounds weight would contain all he wrote in the wilderness.

The writing papyrus (from which is derived our name, paper) is obtained from an aquatic plant growing in swamps by the Nile. It is found in this day in upper and lower Egypt, by the side of Jordan, in Sicily, and along the borders of some of the western rivers of Africa. A cloth which is prepared from it is made use of for sails, and sometimes for wearing apparel, and Bruce found it in Abyssinia employed as a lining for boats.

The stem of the plant is triangular, rising to the height of 12, 15, and it is said sometimes 20 feet, tapering gradually towards the extremity, which is surmounted by a flowing plume. The paper was prepared from the inner bark of the stem, by dividing it with a kind of needle into thin plates or pellicles, each of them as large as the plant would admit of. These plates, being trimmed and made smooth, a sufficient number to form a sheet of the requisite width, were laid side by side on a table, and then crossed by another layer at right angles to the first. The mass being then moistened with the waters of the Nile, was subjected to pressure, which caused the glutinous juices of the plant to exude, and to bind the whole firmly together. Each sheet was then carefully smoothed by being rubbed with a hard polished body. This paper, being first manufactured in Egypt, became in early time a very important article of its commerce. I have devoted some time to the description of it, for it was the principal material employed for books until long after the Christian era; and in the reign of Tiberius, a popular tumult arose in Italy in consequence of a scarcity of it.

Before treating of early literature, we shall briefly touch on the other writing substances employed in ancient time, and amongst literary and partially cultivated men in various ages. The skins of beasts rudely prepared, or more carefully dressed, have been amongst most nations in high repute for their durability, and of course the permanency of the records committed to them. They were anciently written but on one side, and when a work exceeded that which a skin would contain, two or more were glued together so as to form an extended sheet. This, when not in use, was rolled upon a rod, after the manner of a modern map. The book was then called a volume, from being rolled. The form which originated the name has long been scarce in our oldest libraries; but the name itself has become of general signification, and is now synonymous with book. The title was written upon that part of the back of the skin which would be visible when the whole was rolled up. When Eumenes king of Pergamos, 170 years before the Christian era, was endeavouring to gather a library which should rival that established by the Ptolemies at Alexandria, the king of Egypt, to frustrate his intentions, prohibited the export of papyrus from the Nile. This it is said caused a more general use of skins at Pergamos, and led its scribes to that preparation which has since been called parchment. It was in Pergamos, and about this period of time, that the square form was first adopted in books. This proved an economical arrangement, enabling the writers to make use of both sides of the sheet. The parchments were folded to the requisite size, and the book was no otherwise bound than by being stitched through the back.

A variety of other animal materials have also been pressed into the service of literature. Both Gibbon and Heeren tell us of a manuscript once in the library at Constantinople 120 feet in length, which was written on a membrane obtained from a serpent. Sea shells have given permanency to the thoughts of some, and the bones of animals, particularly the shoulder blade, to the wisdom of others. Both these materials were used by the philosopher Cleanthus, who was accustomed to write on them the lectures of his master Zeno. He flourished 260 years before the Christian era. Gibbon says, that much of the original copy of the Koran was on the shoulder blades of sheep. Perhaps the most beautiful animal production ever made use of was ivory, cut into very thin sheets. Some of the works most in esteem in eastern countries are still written on such. Linen cloth was employed in ancient, as it has been in modern time. It is however, not well adapted for the purpose, unless covered with a composition of wax or some other material which will give to it a smooth surface. Hesiod, 907 years B. C., wrote his compositions on a leaden table. The laws of Solon were recorded on tables of wood, 596 B. C. The Romans, for the preservation of their treaties, caused them to be etched upon plates of brass. Even brass, however, did not always preserve the records committed to its trust, for we find it narrated in the Roman annals, that those plates which contained their laws of the twelve tables were struck by lightning and melted. Of the tables of wood, the ancients preferred those formed of cedar, not only because of their durability, but from the fragrance they continued to emit. It was a common saying of the Romans, respecting their favourite works, that they were worthy to be written on cedar; and the manuscripts which they most valued were anointed with an oil prepared from it.

Writing on rods or bars of wood is several times mentioned in the Scriptures. The ancient Britains made use of such, and their bars of wood being either square or triangular, when they wrote their poetic compositions upon them, the one received their four line stanzas, and the other, the triplets. A number of these bars being set in a frame, in which they could readily be turned according to the will of the reader, might contain a short narrative, a poem, or a sonnet. The Icelandic authors were accustomed to make a literary use of the smooth walls of their houses, and Olof, according to their Sagas, built a very large dwelling, not for the comfort and convenience of his family, but that he might have room wherein to deposit the fruit of his genius.

As the Romans, for their earliest productions, made great use of the inner bark of trees, the word "liber," inner bark, became their appellative for a book. The English "book" is derived from the Saxon boc, beech tree, on the bark of which the prose and poetic legends of our fathers were written.

The books at Tanjore and other parts of India are written on palm leaves, and are strung together on cords after the ancient fashion. Most of the public libraries of Europe have copies of the Bible written on such, which are of comparatively recent execution. The Ceylonese still employ palm leaves, or the strips of those obtained from the talipot tree.

According to the substance to be written on was the instrument made use of by the ancient writers:—a chisel, a style, a pencil, or a reed. The reed, which may be considered to have been the pen of ancient times, was split and shaped to a point as those made now of quills.

The ink they employed was sometimes soot or ivory-black mixed with gum, and sometimes the coloured liquor obtained from the cuttle fish. A red ink they prepared from cinnabar. The liquor which is found in the cuttle fish, and which it makes use of in discolouring the waters to facilitate its escape from an enemy, is a very deep and enduring pigment. Some that Dr. Buckland obtained from fossil specimens of this tribe which had been buried, he supposes, several thousand years, had lost none of its characteristic colour. He submitted to a celebrated painter a portion on trial, who inquired where the colourman could be found who could furnish such excellent sepia.

We find Moses saying, "yet now if thou wilt forgive their sin, and if not, blot me, I pray thee, out of the book which thou hast written." This blotting out has been thought to have had reference to some of the vegetable inks employed in that time which might readily be washed from their leaves or bark. Others have imagined it to allude to writings made with a sharp style on tables covered with wax, which could be erased and renewed at pleasure. It was the practice of some of the Roman authors to compose at such a writing table, and not give any production a more enduring form until it had received a thorough revision, and endured the criticism of the author's literary friends.

(To be continued.)

For "The Friend."

HOW ROCKS ARE FORMED.

Some of the most curious philosophical experiments of the present age have consisted in imitations, on a small scale, of operations which nature carries on upon a very grand one. A popular view of some of these cannot fail to prove interesting.

Limestone is a rock found in great abundance throughout the crust of the earth. Marble, chalk, and calcareous spar, are modifications of it. Dr. Black ascertained that the process so familiar to us all, of burning limestone and thus making the *quick-lime* used in building and for agricultural purposes, is simply a discharging, from the original stone, of carbonic acid, which goes off in a gaseous form. Limestone he therefore made out to be the carbonate of lime. It was, some time after, propounded by Dr. Hutton, the geologist, that limestone, in its various modifica-

tions, had been formed under the influence of the heat which he assumed to exist in the interior of the earth, while a pressure of superincumbent materials prevented the carbonic acid from flying off. This was an ingenious idea, but deficient in positive proof. Sir James Hall, who was a supporter of Dr. Hutton's theory of the earth, subjected it to the test of experiment.

He commenced his experiments in 1798, at his country house of Dunglass, in Berwickshire. He took a common gun-barrel, and charging it with a quantity of chalk, or pulverized limestone, filled it up with brick-dust, and closed the muzzle by welding its lips together. He then introduced the breech into a furnace, heated to 25° of Wedgwood's pyrometer. Many barrels, thus treated, gave way; but, in others, at the conclusion of the experiment, the chalk was found *agglutinated into a stony mass*, which required the smart blow of a hammer to break it, and felt under the knife like common limestone. He afterwards changed the gun-barrels for porcelain vessels prepared on purpose, and used fusible metal for ramming, instead of brick-dust. He also took many ingenious methods for ascertaining how much carbonic acid made its escape during the operation. When an escape to the amount of twenty per cent. took place, the contents had no appearance of stony matter; but when it was about 3 or 4 per cent., the stony character was perfect. Ultimately, by allowing a little aqueous vapour to remain in the barrel, in order to counteract the expansion of the fusible metal, he succeeded in reducing the proportion of escaped gas to about one fourth per cent. The pounded chalk was then brought into the condition of saline marble, accompanied with crystallization and other marks of fusion. One specimen, formed from pounded spar, was so complete as to deceive one of Sir James' workmen, who remarked that, if the marble were a little whiter, the quarry from which it was taken would be very valuable. This particular specimen afterwards fell into dust, but many other pieces, the produce of the Dunglass laboratory, resisted the air and kept their polish for years; nor do we know that these are yet otherwise than in the condition of marble.

By calculations, which cannot well be explained here, Sir James concluded that a layer of the carbonate of lime, at the bottom of a sea 1700 feet deep, would, if a due degree of heat were applied, be formed into limestone, and into a complete marble, if the depth of the sea were 3000 feet; the pressure being in one case as 52, and in the other as 86, atmospheres.

Sir James spent seven years in his experiments, which were one hundred and fifty-six in number, and he showed in them a degree of patience, care, and philosophic ingenuity, which excited universal admiration when the result was published. He was considered as having proved—not exactly that our beds of limestone and marble were formed by heat under a pressure confining the carbonic acid—for nature might have other ways of bringing about the end, but that such at least was a mode in which the effects could be brought about. The probability that such were really the circumstances under which the strata in question were formed, is so great, that practically, such is the doctrine as to their formation held by the philosophical world.

He afterwards made some interesting experiments relative to basaltic rocks; but, in these, as he was not the first inquirer, we pass them by in order to notice his investigations respecting the formation of sandstone. This rock is also a very abundant one throughout the crust of the earth, forming numerous beds, alternating with nearly all the other aqueous rocks. Its utility in building is well known. Sandstone is easily seen to be a composition of sand, for it may readily be reduced to that form; but the wonder is how sand has assumed so hard a consistence. He performed a series of experiments, which showed at least one way in which great layers of loose sand might be agglutinated at the bottoms of seas, so as to form rocky strata.

In the little valley of Aikengaw, at the eastern extremity of the Lammermuir hills, Scotland, he observed the gravel which occupies its bottom, agglutinated in several places into a mass of conglomerate, very solid in the centre, but becoming gradually looser on both sides, till it passed into the state of moveable gravel. He was soon satisfied, by applying chemical tests, that the agglutination was not produced, as in some cases, by calcareous matter. A few miles lower down the valley he found a crag of sandstone, which yields much to the action of the air, and in dry weather is covered with a white efflorescence, having exactly the taste of common salt. Combining the two facts, he inferred that sea salt might be the substance which, by serving as a cement, produced the consolidation, both of the sandstone rock and the conglomerate. He immediately resolved to follow out this idea by experiment, and, after many trials, succeeded in forming artificial sandstones of various qualities, some of which were firm enough to be dressed by the chisel, and some have resisted exposure to the elements for years.

In his first experiments, he put into a large crucible a quantity of dry salt and a quantity of loose sand; the whole being heated from below, the salt ascended in fumes through the sand, and converted it into a solid stone. The fumes seemed to act as a flux on the silicious matter of the sand, and, in fact, to serve a purpose exactly analogous to what they do in glazing potters' ware.

Sir James' object, however, was to illustrate the Huttonian formation of rocks at the bottom of the sea; and he wished to show that the presence of a body of water above the sand, even at a moderate temperature, was not incompatible with the necessary degree of heat nor the success of the experiment. He filled an iron crucible, 18 inches high, to the brim, with sand and strong brine, the water rising three inches above the sand. An empty gun-barrel, closed at the lower end, was amidst the sand to within an inch of the bottom of the crucible, that by looking in at the upper and open end of the barrel, the temperature of the saline mass at different heights might be seen. The crucible was exposed to a strong heat, fresh brine being constantly added as it boiled off; and it was distinctly seen by means of the gun-barrel, that while the sand at the bottom became red hot, the water at the top was merely in a state of moderate ebullition. After remaining in the fire for some hours, it was suffered to cool, and when examined, it was found that the sand at the bottom had concreted into a solid cake of most perfect sandstone, while the part above, which was still drenched with brine, remained permanently loose.

He used black-lead crucibles at first, but found that the action of the brine upon them impeded the success of the experiment. He found, also, that the process succeeded better with common sea water instead of brine, only it was necessary to continue the operation for three weeks, always maintaining the supply of water, till sufficient salt was accumulated. The substitution of a strong brine, containing one third of its weight of salt, merely shortened the process without altering the result. He observed too, that the longer the operation was continued, the more solid and durable was the sandstone produced; and hence, as nature has unlimited time for her processes, we see why her products should be so much more perfect than those of man.

Common sand was at first used by Sir James, but he afterwards found that pounded quartz or gravel could be solidified by the same method. For the sake of negative evidence, fresh water was tried, every other circumstance being the same; but there was not the slightest symptom of consolidation.

He now proceeded a step farther in his imitation of nature. Sandstones are often tinged or streaked with colours, and the colouring matter is generally metallic. A little oxide of iron (in powder) was therefore mixed with the salt, and this being put into a crucible with quartzose sand, it was found that the fumes of the salt bore up the metallic oxide along with them, and the cake of sandstone produced was curiously stained with iron.

Basalt has been the subject of similar experiment so early as 1804. The general character of this rock is well known. It is of igneous, or volcanic origin—generally of a blackish colour, and always very hard, being composed mainly of felspar and augite, with titaniferous iron, and, finally, is often of a columnar structure—that is, disposed in masses as of pillars closely joined together. The island of Staffa, one of the Hebrides, is a rock a mile and a half in circumference, consisting of three beds more or less horizontal, of which the central is formed of nearly upright columns of basalt, in which several caves have been worn by the waves. Another such specimen is found in the Giant's Causeway, on the northern coast of Ireland. "This," says Pictet, "is a sort of promontory or jettee, which slopes very gradually down to the sea, and terminates in a point, against which the waves dash with great violence. This jettee forms the left part of a semicircular bay, surrounded on all sides by a steep and lofty coast, which displays, in all its extent, the finest specimens of basaltic phenomena—nothing is to be seen, on every hand, but groups of columns in an upright position. The Giant's Causeway, properly so called, is one of these

groups, but so much lower than the rest, that the tops of the pillars are seen [but] a little way above the level of the sea. The uniform appearance of the upper ends of these innumerable columns makes it seem, at a little distance, like a pavement of polygonal [many-cornered] stones. Upon a nearer approach they are found not to be altogether on the same level; and in walking along the causeway, one is obliged to step continually up and down. They are nearly all in perfect contact, without the interposition of other substance. The number of their corners is not uniform; there are some with eight, and some with four, but the most common form is six cornered." The columns are composed of blocks piled on each other, projecting on the upper, and hollow on the under surface, so as to fit accurately.

These objects are the wonder of their respective countries, yet the secret of their formation has at length yielded to persevering investigation. About 1804, Gregory Watt fused seven hundred weight of an amorphous or unshaped basalt, named Rowley Rag; the fire was maintained for six hours, and the mass was then suffered to cool very gradually, so that eight days elapsed before it was removed from the furnace. The experimenter found in it spheroids, or flattish globular masses, in some cases extending to a diameter of two inches. When two of these came in contact, they did not melt into each other; they kept distinct, but pressed against each other, and formed plane sides, just as soap bubbles may be observed to do when they press each other. When several spheroids met, they formed prisms, or acquired flat sides all round. Where the centres of a number of these spheroids were at equal distances from each other, it was calculated by Watt, that, in spreading out, and meeting each other, they must necessarily form six-sided figures. Where the centres were at unequal distances, it was not less clear that figures of other shapes must be formed. [The formation of the joints in the columns he did not succeed so well in elucidating. Latterly, that, too, has been accounted for, though by a process which cannot readily be explained without a diagram.] Thus, what was once thought one of the most mysterious of all nature's operations, was so far mimicked in a chemist's workshop, as to lead to a nearly certain knowledge of how the operation took place in nature's own greater laboratory. Staffa, the Giant's Causeway, and other well known basalts, must have once been fused masses, which assumed their columnar structure as a simple consequence of the manner in which they were cooled.

More recently, crystals like those found in rocks have been formed by Becquerell and Mitcherlich, European mineralogists, by means of electricity acting upon a solution containing the ingredients; and Crosse, of Somersetshire, has, by means of the same power, acting with small force, but during a considerable space of time, exactly simulated a process going on in the Quantock hills, where water, percolating through limestone, forms calcareous spar. The latter gentleman has also made crystals of silver, chalcedony, and quartz, out of various solutions.

Experiments like these are chiefly of value for the illustration they give to a very interesting and instructive truth which lies at the bottom of all philosophy, namely, the invariableness of the laws which govern the operations of nature, whether they act upon a large or small scale; they form the globe destined to sustain millions after millions of intelligent beings, and shape the dew-drop which sparkles on the hawthorn blossom, with equal accuracy, and in conformity to the same general principles; they form alike the stratum of rock which traverses an extensive country, and the handful of materials collected in the crucible of the philosopher; a small quantity of basalt, subjected to a common furnace, exemplifies those mighty workings which, countless ages ago, produced a Staffa and a Giant's Causeway.—*Abridged from Chambers' Edinburgh Journal.*

On the Habits and Instincts of Animals. By William Swainson, A. C. G., Fellow of the Royal Society, and of several Foreign Academies.

(Continued from p. 292.)

Out of the many other curious anecdotes which have been given of the sagacity of quadrupeds, we shall add one more, which, as recorded of an animal considered as proverbially stupid, is proportionably singular. An ass belonging to Captain Dundas, R. N. was shipped on board a frigate proceeding from Gibralter to the island of Malta. The vessel struck on some sands off the Point de Gat, and the poor ass was thrown overboard, the sea at the time running so high that a boat which tried to reach the shore was lost. A few days after, however, this identical ass presented itself at the gates of Gibraltar, and hastened to the stable which it had formerly occupied. The fact was, that the poor animal had not only escaped safely from the waves, but actually travelled a distance of 200 miles through an intricate country, in a space of time which could not allow of his having even mistaken his road.

A most singular instance of the instinct of a cat for discovering its home is too remarkable to be omitted, particularly as it occurred under my own observation. This cat was an excellent mouser; and the house of a neighbouring friend being greatly infested with rats, it was agreed that the animal should take up its residence for a time in his house, that it might be cleared, in some degree, of these troublesome pests. Pussy, however, had then a kitten about two or three months old; and as we thought she was more likely to remain in her new habitation if she had her little one as a companion, both animals were sent; and, that the mother should not discover her way back, both were tied up in a sack, and in that state conveyed to our friend's house, a distance of near a mile and a half from Tittenhanger Green. The mother, finding herself with her kitten, and in a good hunting locality, made no effort to escape. To our utter astonishment, however, she made her appearance next morning, at the breakfast-room door, at her usual hour! She had come—no one knew how—over fields and through coppices, as it was conjectured, early in the morning, by a route she never could have traversed before, and without any other guide but instinct. Having partaken of her usual breakfast from the hands of her young mistress, she was seen no more that day; next morning, however, she was again at her post; and these daily journeys were continued for more than a week. On mentioning this to our friend, he stated that he always missed the cat at his breakfast hour; but that, soon after, she regularly returned to her kitten, which remained quietly in the house during the morning visits her mother paid to her real home. Our cat, like all good mousers, is such a thief, that, not wishing to kill it, we have frequently tied it in a sack and turned it loose a considerable distance from home; but, somehow or other, she invariably finds her way, "through brake and through briar," to Tittenhanger Green, where she now is.

The instincts of insects are so singular, and yet so various, that a volume might be filled with this subject alone. The grave beetles (*sylphidæ*) are so called from their habit of entering the bodies of small animals, in which they afterwards deposit their eggs. Astonishing, but well authenticated accounts have been given of the sagacious industry with which these little creatures accomplish labours, which must be to them enormous. Among other experiments, a glass cucurbit was half filled with earth, on which were placed four beetles and their young, and then, after being covered, it was lodged in the open ground: at the end of fifty days, the bodies of four frogs, three birds, two grasshoppers, one mole, the entrails of a fish, and part of the lungs of an ox, were buried by these indefatigable creatures.

We may here notice a most singular story of bees, related by Stedman. We should not have given it a place, but for the general accuracy of this traveller, and from the very pointed manner in which its veracity is vouched for. It will certainly amuse the reader, if it fails to convince him that bees know those who live about their nests. "On one occasion, I was visited at my hut by a neighbouring gentleman, whom I conducted up my ladder; but he had no sooner entered my aërial dwelling, than he leaped down from the top to the ground, roaring like a madman with agony and pain; after which he instantly plunged his head into the river. I soon discovered the cause of his distress to be an enormous nest of wild bees, or *wassee-wassee*, in the thatch, directly above my head, as I stood within my door; when I immediately took to my heels, as he had done, and ordered the slaves to demolish them without delay. A tar mop was now brought, and the devastation just going to commence, when an old negro stepped up, and offered to receive any punishment I should decree, if ever one of these bees should sting me in person. 'Massera,' said he, 'they would have stung you long ago had you been a stranger to them; but they being your tenants, and allowed to build upon your premises, they assuredly know both you and your's, and will never hurt either you or them.' I instantly assented to the proposition; and, tying the old black man to a tree, ordered my boy Quad to ascend the ladder quite naked; which he did, and was not stung. I then ventured to follow,

and I declare, that even after shaking the nest, which made its inhabitants buzz about my ears, not a single bee attempted to sting me. I next released and rewarded him for the discovery. This swarm of bees I afterwards kept unhurt as my body-guard. They have made many overseers take a desperate leap for my amusement; as I generally sent them up my ladder upon some frivolous message, when I wished to punish them for injustice and cruelty to the negroes,—which was not seldom. The same negro assured me, that on his master's estate was an ancient tree, in which had been lodged, ever since he could remember, a society of birds, and another of bees, who lived in the greatest harmony together. But should any strange birds come to disturb or feed upon the bees, they were instantly repulsed by their feathered allies; and if strange bees dared to venture near the bird's nests, the native swarm attacked the invaders, and stung them to death. He added, that his master's family had so much respect for the above association, that the tree was considered as sacred.*

Memory, as well as instinct, appears to be given to animals, as necessary for their well being. An instance of the powers of memory evinced by an elephant is given by Williamson, as a fact, well known in Bengal at the time, and attested by the signatures of several gentlemen, who were eye-witnesses to the occurrence. An elephant, that had been some years domesticated, got loose during a stormy night, and rambled into his native jungles. About four years afterwards, when a large drove had been captured in the *Keddah*, the keeper of the lost one, along with others of the natives, had ascended the barricade of timber by which it was surrounded, to inspect the new guests; among them, he fancied he recognised his former charge; and, though ridiculed by his comrades, he called to the elephant in question by the name it had formerly borne. To the wonder of all present, the animal came towards him; the man, overjoyed at the event, got over the barrier, and, ordering the elephant to lie down to be mounted, he bestrode its neck as in former times, and exultingly led it forth, to the admiration and surprise of all present. Another instance of recollection in this quadruped must not be omitted here. An officer in the Indian army, who was quarter-master of a brigade, found it needful to put a heavier load than usual on a very large elephant, called the *paugul*, or fool; but he soon intimated that he was only disposed to take his usual load. The officer, seeing the animal repeatedly shake off the superabundant portion, lost his temper, and threw a tent-pin at the animal's head. Some days after, as the latter was going with others to water, he happened to pass the officer, whom he very deliberately lifted up into a large tamarind tree, leaving him to cling to the boughs, and to get down as well as he could. And this brings us to notice an instance of generosity manifested by this very individual, which, together with a small female, was subsequently under the command of Captain Williamson, and both animals were used to carry the tents of the party. "Unluckily," observes the captain, "after the first day's march, we found that the female was rather overladen, and began to gall, but we could not get the *paugul* to carry an ounce more than his first day's burden; the feet of the little female, however, becoming very sore, the animal relaxed from his obstinacy, and generously took as much of her burden as gave her relief during the rest of the journey.

(To be continued.)

* The best part of this pleasant and very pleasantly told story, in our estimation, is, the sagacity and truly philosophical cast of mind evinced by the old negro man, that would have done no discredit to many a modern *sayan*, with the aid of all his vaunted book-knowledge.—*Ed.*

For "The Friend."

A FATHER'S COUNSEL.

1. Be diligent in thy calling, and upright in all thy dealings.
2. Cultivate thy mind carefully, and it will afford thee a store of pleasing reflections.
3. Make choice of a course of virtue, and imitate a high pattern.
4. Do all the good in thy power, and let every action be useful.
5. Investigate affairs closely, and engage in them cautiously.
6. Lay all thy plans with prudence, and conduct them with economy.
7. When thou engagest, do it cheerfully, and when thou executest do it energetically.
8. In difficulties be patient, and by perseverance overcome them.
9. Arrange thy affairs systematically, and despatch them in order.
10. Have for every thing a time, and do every thing in time.
11. Select for every thing a place, and keep every thing in place.
12. What requires being often done, do well, and dexterity will be attained by habit.
13. Keep correct journals in business, and a record of all thy affairs.
14. Examine thy concerns carefully, and thy own character impartially.
15. Correct and reform what is wrong, and make amends for past injuries.
16. Complete all your engagements, and prepare for a state nearer perfection.

THE INFLUENCE OF EXAMPLE.

(A Fragment by Zeller.)

Young minds can at all times be acted upon without words,—simply by example. The further any person is from what he ought to be, the more does he experience this influence. The less his mind is developed, the more is he urged by a propensity to *imitate*, to direct and govern himself according to what he sees and hears in the society of other men, better, older, stronger, more skilful, and more experienced than himself. This is a truth that cannot be too often dwelt upon, especially in these days, when we attribute so many wonders to the power of words. Yes: example alone, a life of practice without display, exercises a most marked influence on the soul, the character, and the will; for the *conduct* of a man is the true expression of his being, and gives a tone to (or animates) every thing around him; consequently nothing can remain uninfluenced within the sphere of a living being. There emanates from the active noiseless life of a single individual, power which is to others, either "a savour of life unto life, or a savour of death unto death."

This explains to us why parents, simple, and without culture, especially mothers, who perhaps have never opened a book on education, and speak very little to their children, yet offer them every day the example of a lively affection, and a well employed though retired life, bestow an excellent education; while, on the other hand, we see the children of well instructed parents, frequently turn out ill, who have been acted upon by words alone, rather than by example, and who contemplate around them a class of beings who exercise no good moral influence. Alas! that all parents and instructors knew how much power there is in being virtuous, and how little in only *appearing* to be so!

It concerns all who are called to occupy themselves in education, to consider the holy lesson taught by a well beloved disciple of the Saviour, in these words: "Be thou an example of the believers, in word, in conversation, in charity, in spirit, in faith, in purity." 1 Tim. iv. 12. "In all things showing thyself a pattern of good works: in doctrine showing uncorruptness, gravity, sincerity, sound speech that cannot be contemned; that he that is of the contrary part may be ashamed, having no evil thing to say of you." Titus ii. 7, 8.

Here we address the following exhortations to all persons, parents, or tutors, who are charged with the task of education, beseeching them to give serious attention thereto.

1. Be what the children ought to be.
2. Do what they ought to do.
3. Avoid what they should avoid.
4. Aim always that not only in the presence of the children, but also in their absence, your conduct may serve them for an example.
5. Are any among them defective? *Examine what you are yourselves*, what you do, what you avoid,—in a word, your whole conduct.
6. Do you discover in yourselves defects, sins, wanderings? Begin by improving yourselves, and seek afterwards to improve your children.
7. Think well that those by whom you are surrounded, are often only the reflection of yourselves.
8. If you lead a life of penitence, and seek daily to have grace given you, it will be imparted to you, and through you to your children.
9. If you always seek Divine guidance, your children will more willingly be directed by you.
10. The more obedient you are to God, the more obedient will your children be to you; thus in his childhood the wise Solomon asked of the Lord "an obedient heart," in order to be able to govern his people.
11. As soon as the master becomes lukewarm in communion with God, that lukewarmness will extend itself among his pupils.
12. That which forms a wall of separation between God and yourselves, will be a source of evil to your children.
13. An example in which love does not

form a chief feature, is but as the light of the moon; it is cold and feeble.

14. An example animated by an ardent and sincere love, shines like the sun; it warms and invigorates.

ACCOUNT OF JONATHAN MAGEE.

[Translated from Tract No. 21, of the Children's Series of the Jaffna Tract Society.]

This youth was born of heathen parents in Cunnagam, a village in the parish of Oodooville. All his ancestors were of high caste and strong in the religion of Siva. When he was five years old he went to the village school and studied Tamul, and committed to memory some verses written against the Christian religion, and was forward in disputing with Christians. Being desirous of entering the seminary at Batticotta, he studied English, and was eventually received to the seminary. While there, his feelings against Christianity gradually changed, and he appeared to read the Bible with much interest, and to consider himself a great sinner. At this time he went home in vacation and spoke with his father and mother, and told them that the gods which this people worship, and the idols, are all without life and useless, and that trusting them is useless. His father and mother replied: "Son, is not the god whom our fathers worshipped the true God? Speak not thus profanely that the idol which our wise men and others from the commencement of the Siva religion, worshipped as God, is vain. If you speak thus, you will go to hell." In reply, he gave an account of the Christian religion, and said, that without faith in Jesus Christ, no one could go to heaven, and that disobedience to the commandments of God, and the worship of idols, and divine honours paid to many gods, are sin and lead to hell; but that speaking the truth could never lead to hell. In reply, they said, "While you are so young don't enter into so great subjects. Never speak lightly of any god." The boy replied, I am not afraid to leave off the worship of these gods and idols; but I fear because I have so long neglected to worship my Maker, and because I have walked contrary to his commandments so long. Therefore, I am resolved to go to Christ, to follow him, and to enter into his religion, that this sin may be taken away. His father was angry at this, and said, "You must not enter into the Christian religion now. If you do, all our relations will cast us off, the whole world will despise and ridicule us. See to it that you do not thus disgrace our family. Not only this, you are young, and there is no special haste to embrace the Christian religion. You may attend to that hereafter when you have studied and become learned, and have gotten a situation, and are respected." To this the boy made no answer, kept quiet, and went back to Batticotta. After a few days, he joined the church, and then wrote a note to his father telling him what he had done. The father read the note, and told it to no one but his wife. In the next vacation, the boy was afraid to go to his house for fear of his father and mother, and so went to a neighbouring schoolmaster's house, and made his case known to him. As the master understood the whole case, he accompanied the boy to his father's house. His father and mother were angry, and would not speak with their son. When his uncle and other relations understood the case, they were in a great rage, and came to beat him. The schoolmaster seeing this, snatched the stick from the uncle's hand, and broke it, and exhorted them to be quiet. They then refrained, and said, "Well, you may go and live with the missionaries, but never set foot again in this place, nor come into our presence." He bore all this with much patience, and returned to Batticotta. While there, he was constantly sorrowful, because some of the boys who studied in the same class with him were careless about their souls. He used daily to call some of them into a private room, exhort them, and pray with, and for them. He used to call them one by one and exhort them. When others talked with the boys, he also would tell his feelings, and speak of the importance of their also joining the Christian church. From the day he joined the church, till the time of his death, he was consistent in his conduct, very elevated in his piety, and in learning excelled. As he was thus distinguished in every thing, he was much beloved by all his class, and by his teachers, and by the missionaries. He fell sick on the 12th of November, 1836. His disease increased more and more until he died.

From the (Boston) Common School Journal.

Management of Disobedient Children.

The management of disobedient children is one of the most difficult of duties, whether in school or at home. In this branch of government, ignorance and bad temper run into mistakes, as certainly as water will run down hill. They cannot proceed rightly. It requires all possible prudence, calmness, consideration, judgment, wisely to govern a refractory child. It is a common saying, that anger should never be manifested towards the young or the insane. This, though true, is but a feeble expression of the truth. Feelings of wrath, madness, are as absurd and incongruous, in the management of a disobedient child, as they would be in a surgeon, when amputating a limb or couching an eye. Suppose we were to witness an operation upon the human eye, and the oculist, as he approached his work, should begin to redden in the face and tremble in the joints, to feel all the emotions and to put on the natural language of wrath; and should then spring upon his patient like a panther, and strike his knife into the eyeball at hazard;—should we call this *couching* or *gouging?* But are the moral sensibilities of a child less delicate in their texture than the corporeal senses? Does the body require a finer touch and a nicer skill than the soul? Is less knowledge and discretion necessary in him who seeks to influence the invisible and immortal spirit, than in him who operates in the visible and material frame? Is the husk more delicately wrought than the kernel? No; as much more exquisite as the painting is than the frame, or the jewel than the casket, so much more excellent is the soul than the body it inhabits; and he who does not approach in this faith, wants one of the essential prerequisites for acting upon it wisely. Firstly, then, let teachers discipline their own feelings to the work they have undertaken.

Teachers have their severest trials with disobedient children. To instruct the beautiful, the affectionate, the intelligent, the grateful, is unalloyed delight. But to take an awkward, gawky, unclean, ill-dressed, ill-mannered, ill-tempered child, and to work up an interest in it, to love it, to caress it, to perform a full measure of duty to it;—this draws upon all the resources of conscience, virtue and religion. Yet, in the eye of true benevolence, of Christian duty, this class of children presents the dearest of objects—the first to be attended to, the last to be forgotten.

The motive of interest also coincides with the motive of duty. If the teacher truly consults his own ease and comfort, he will treat the less amiable children in his school with great kindness and regard; because, by this course of conduct, he will save himself from a vast amount of labour and vexation in the end. When he knows that wounds actually exist, the true question of policy with him is, whether it is better, even for himself, to inflame and aggravate, or to soothe and heal them. At a common school convention in Hampden county, we heard Dr. Cooley relate an anecdote, strikingly illustrative of this principle. He said, that, not many years ago, a young man went into a district to keep school, and before he had been there a week, many persons came to see him, and kindly told him that there was one boy in the school whom it would be necessary to whip every day; leading him to infer that such was the custom of the school, and that the inference of injustice towards the boy would be drawn whenever he should escape, not when he should suffer. The teacher saw the affair in a different light. He treated the boy with signal kindness and attention. At first this novel course seemed to bewilder him. He could not divine its meaning. But, when the persevering kindness of the teacher begot a kindred sentiment of kindness in the pupil, his very nature seemed transformed. Old impulses died. A new creation of motives supplied their place. Never was there a more diligent, obedient, and successful pupil; and *now*, said the reverend gentleman, in concluding his narrative, that boy is the chief justice of a neighbouring state. The relator of this story, though he modestly kept back the fact, was himself the actor. If the Romans justly bestowed a civic crown upon a soldier who had saved the life of a fellow soldier in battle, what honours are too great for the teacher who has thus rescued a child from ruin?

One great error in the management of untoward children, consists in expecting too much from them at once, and immediately. Time is an important element in the process of weakening and subduing bad principles of action, as well as in the growing and strengthening of good ones. All actions proceed from some internal faculty or propensity; and it is not in accordance with the course of nature to expect that an overgrown and over-active propensity can be reduced to its natural size and vigour in a day. Whenever a child has

yielded to an impulse to do wrong, but has been induced, by expostulation or discipline, to do right, the peculiar circumstances under which he was tempted to the wrong should be avoided, if possible, until the resolution to do right has had time to be confirmed; that is, those faculties or sentiments of his nature, from whose ascendency we hope improvement and reform, must have time to grow, and to become superior to their antagonists, if we expect they will prevail over them.

From the Farmers' Cabinet.

TARE.

In the "American Farmer" for the present week, there is honourable mention of the English tare, the most valuable crop that can be cultivated on a farm for summer soiling; but as it is evidently written by one who has not had the means of an intimate acquaintance with it, it is not wonderful that there are some inconsistencies in the account; the writer, however, deserves all praise for bringing it into notice, and it only remains to be put to the test of experience, when its superlative value for soiling all kinds of cattle will be made manifest.

The writer observes, "there is no hindrance in our climate to its cultivation," and yet he adds, "it is doubtful whether tares sown in the fall or autumn would survive our winters." He also says, "tares are of two kinds, winter and spring, but not distinguishable from the appearance of the seed." Now, every one acquainted with the subject knows, that there is a very marked difference in the appearance of the seed of the winter and summer tares, the first being round, small, and black; the latter much larger, flatter, and light coloured; and it is very generally believed, in the tare-cultivating districts, that the winter variety will not produce large crops if sown in the spring; nor will those of the summer variety, if sown in the autumn, even should they survive the winter; and I have been led to make the same remark.

Professor Low observes, very justly, "it is one of the most esteemed crops of England, when used as green forage; they are cut for this purpose after the pods are formed, but long before the seed is ripe;" but he is very wrong when he adds, "being in the class of crops not allowed to *mature their seeds*, they are not exhausting to the soil;" for it is well known that *all crops* begin to exhaust the soil when they begin to bloom, as the blossom is not furnished with any return sap-vessels: the custom of cutting as soon as they begin to blossom, however, obviates very much this objection. In the sheep-breeding countries, it is customary to feed off the tares by folding them with sheep by means of trundles, and if this is commenced early in the season, a second growth takes place, which gives an additional crop of great luxuriance. This is not, however, a mode of management to be recommended, for another important use of the tare culture is, to do away with the necessity of naked summer fallowing; and to this end they should be sown as early after harvest, on those lands designed for the wheat crop the next autumn, as possible: and if they are mown off and given to the cattle as soon as they are fully grown, and the land ploughed up as they are cleared, there will be sufficient time to give it a thorough cleaning before the time of wheat sowing, a preparation for that crop superior to almost every other, especially if the land has been manured for the tares, which it should always be, if possible, as it enables the crop to overcome the weeds, and to add exceedingly to the *size of the dunghill;* and it is remarked, that wheat after tares that have been manured for, is not liable to be affected by rust.

By the turnip and tare culture it is, that the system of naked fallowing is entirely done away in England. The turnips on light lands, the tares on heavy soils, each furnishing sufficient opportunity to clean the land thoroughly, before sowing barley after turnips, or wheat after tares. Arthur Young's observation, "that not a tenth of the stock could be maintained without them," is nothing but the truth; and they will fatten horses, cattle, sheep, and hogs, without any other food, especially if they are allowed to perfect their seed—by which, however, is not meant to ripen it.

Tares produce more green food than the best meadows, and the land may be cleared of them in June, time enough for a crop of turnips, or even potatoes, or of being prepared for wheat. They will fatten all kinds of cattle, suit every soil and climate, and on good soils will produce twelve tons of green food per acre. Winter tares are sown from the middle of August, to the middle of October, two bushels or two bushels and a half per acre. Spring tares may be sown from March to midsummer.

They begin to blossom in May, when they should be mown and taken to the cattle in the stables until they pod, when the remainder should be made into hay; whilst making into hay, they require a good deal of sun; rain is very injurious. If all the farmer's stock is kept upon them while green, they are taken off the grass land, consequently, there will be more grass to make into hay; and they should be sufficiently plentiful to keep the cattle on them until after hay-making, when they might go into the mown meadows. Good land, well manured, will yield ten tons green per acre, which will make three tons of the best hay on the farm. If preserved for seed, they have been known to yield forty bushels per acre, and sell from one dollar to seven dollars per bushel, according to the seasons. They are of such infinite importance for summer soiling, that Mr. Davis, of Beddingham, England, says, he could not maintain one-tenth part of the stock he does without them. This plant maintains more stock at that season of the year than any other whatever. Upon one acre of tares he can maintain four horses, in much better condition than upon five acres of grass; upon eight acres he has kept twelve horses and five cows for three months—June, July, and August, and no other food given them. Cows give more butter while feeding on them than on any other food."

I have sown crops of tares in succession during the spring and summer; the last sowing, on the 21st day of June, proving a heavy and most valuable crop for soiling working horses on a railroad until the month of September—these were raised upon land which had been cleared of turnips in the spring and early summer, and which was sown upon the same by the 29th day of September.

James Beynon.

May 15, 1840.

From the same.

IRRIGATION.

Upon the borders of Sherwood Forest, (England,) are the water meadows of which he was speaking; a little river ran through the forest in this part, at the bottom of the valley, with sides moderately sloping, and of considerable extent, between the river at the bottom, and the common level of the surrounding country above. This little river, before reaching the place, ran through a small town, and gathered, doubtless, some refuse matter in its course. From this river the water was taken, at the upper end of the valley, conducted along the edge or bank, in a canal or carrier, and from thence, at proper times, it was suffered to flow out very gently, spreading over and irrigating the whole surface, trickling and shining when he saw it (November) amongst the light green of the new-springing grass, and collected below into another channel, from which it was again let out to flow, in like manner, over land lying still further down towards the bottom of the valley. Ten years ago, this land, for production, was worth little or nothing; he was told that some of it had been let for no more than twenty-five cents per acre: it has never been manured, and is yet now most extensively productive. It is not flooded; the water does not stand upon it, it merely flows gently over it, and is applied several times in a year to each part—in March, May, July, and October. In November, when he saw it, the farmers were taking off the third crop of hay cut this season, and that crop was certainly not less than two tons to the acre. This last crop is generally used as green food for cattle: when he spoke of tons, he meant tons of dried hay. After this crop was off, sheep were to be put upon it, to have lambs at Christmas, so as to come into market in March, when they command a high price: and upon taking off the sheep in March, the land would be watered, the process lasting from two to eight or ten days, according to circumstances, and repeated after taking off every successive crop. Now, although this water has, no doubt, considerable sediment in it, yet the general fact shows how important water is to the growth of plants, and how far, even, it may supply the place of other sources of sustenance.—*Webster's Speech.*

It is a fact, however, that the grasses growing on those watered meadows are quite of a different species from those indigenous to a dry sand upland soil; and this accounts for the numerous crops which they yield—the herbage is peculiarly coarse and long. Thousands of acres of the most productive water meadows, could be formed, comparatively at little expense, in many parts of our country.—*Ed.*

[From the Farmers' Cabinet.]

Slacking Lime and Churning Butter.

The reason of things should be found out.

All bodies, on changing from a *fluid* to a *solid* state, give out heat; and when *solid* bodies become *liquid*, heat is absorbed.

The heat which is given out during the slacking of lime, escapes from the water, in consequence of its changing from a liquid to a solid form, by its union with the lime. The same effect is produced in making butter: when the cream changes from a fluid to a solid, a considerable degree of heat is produced. Hence the importance of turning the churn slowly when the butter is about forming, so that the heated air which is expanded in the churn may gradually escape by the vent, (which should be kept open at this period of the operation,) and not operate to soften and injure the butter in very warm weather.

Some butter-makers put a portion of cold water in the churn when the butter is forming, in order to lower the temperature, and to contract the effect of the heat, set at liberty at this juncture; but experienced dairymen say, that water should *never* be brought into contact with butter, either in the churn, or during the process of working out the buttermilk. It destroys its fine flavour, and reduces its standard of perfection. The buttermilk should be *thoroughly extracted* by working, and absorbed by the application of a cloth in which a sponge is inclosed, and *no water* used in the process. O.

In the choice of water, always select that which is softest; for hard water, as it is called, is always rendered so by its impurities. Any substance will soften and cook sooner, and with less fuel, in soft water, than when hard water is used; and the essence will be more quickly and thoroughly extracted by the former, than by the latter, as is observed in making tea or coffee.

AGE OF SHEEP.

The age of a sheep may be known by examining the front teeth. They are eight in number, and appear during the first year, all of a small size. In the second year, the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguished by being of a larger size. In the third year, two other small teeth, one from each side, drop out, and are replaced by two large ones; so that there are now four large teeth in the middle, and two pointed ones on each side. In the fourth year, the large teeth are six in number, and only two small ones remain, one at each end of the range. In the fifth year the remaining small teeth are lost, and the whole front teeth are large. In the sixth year, the whole begin to be worn; and in the seventh, sometimes sooner, some fall out or are broken.—*Ib.*

Many who would startle at an oath, whose stomachs as well as conscience recoil at an obscenity, do yet slide glibly into a detraction —*Government of the Tongue.*

For "The Friend."

THE EMIGRANT.

From eastern states where wealth and plenty reign,
And fickle fashion holds her gay domain,
When first we come to seek a dwelling here,
How comfortless our prospects oft appear!
The objects of delight no more we find,
But all our pleasant things seem left behind.
Yet let us not in sullen pride complain,
If well improved, this change may not be vain;
For solitude and hardships oft have brought
Far better lessons than in ease were taught;
The salutary lore which they impart
Strengthens the mind and purifies the heart,
And leads to nobler, more substantial joys,
Than e'er were found in grandeur, show and noise.
The still small voice brought to Elijah's ear,
In Jezreel's crowded walks he did not hear;
Nor, till on Horeb's solitary brow,
His future business did the prophet know.
Accustomed long to full and prosperous days,
Caress'd and flattered, blest in all our ways,
We oft regard these comforts as our due,
Nor honour Him from whom all blessings flow.
But from our long loved idols once removed,
With various crosses and besetments proved,
Our helpless state we come to understand,
And own with rev'rence his almighty hand.
Thus Babel's king the God of Israel chose,
To humble nations and chastise his foes;
He gave him victory in the embattled field,
Till all the neighbouring lands were forced to yield;
On mighty kings his servile yoke was laid,
And e'en the beasts his boundless power obey'd.
But grown too great and towering up to heaven,
At once from all the sons of men he's driven;
His haughty heart was changed to beastly kind,
To humble, wean, and simplify his mind:
His royal robes no more a covering lend;
On him the silent dews of heaven descend;
O'er fair Chaldea's fields he heedless stray'd,
And with the oxen cropt the grassy blade,
Till changed from all his pride, and sinful way,
He owns the God of heaven's eternal sway;
Who from the dust the meanest wretch can raise,
And all the proud is able to abase.

Augusta, Ohio.

THE FRIEND.

SIXTH MONTH, 20, 1840.

It has become our painful duty to notice an event deeply affecting many minds here and hereaway, as the announcement of it will be to very many in other parts, on both sides of the Atlantic. We allude to the death of our beloved and revered friend DANIEL WHEELER, which took place at the residence of John Clapp, in the city of New York, at about 12 o'clock on the night of sixth day, the 12th instant. It is known to most, perhaps all our readers, that this dear friend returned to his native land last autumn in consequence of the illness of two of his sons. One of these, Charles, who had been his faithful companion in the voyage to the South Sea islands, soon after the father's arrival in England, died. Some weeks subsequent to this affecting occurrence, Daniel again embarked in one of the Liverpool packets, and arrived at New York on the 28th of the 4th month last, in a state of great debility, having been ill during most of the voyage, so that it was with difficulty he was removed from the ship. The transition doubtless was grateful and relieving to him, from the privations incident to a sea voyage, to ample accommodations of the most comfortable kind, surrounded by an affectionate and sympathising family, tenderly solicitous to anticipate and supply all his wants, and having the further advantage of experienced and skilful medical advisers, indefatigable in their endeavours to do whatever was in their power for his relief. But the disorder proved to be too deep seated to be reached by medical art, and he ultimately sunk under it. The interment took place in the afternoon of second day, the 15th instant, after a solemn meeting held on the occasion in the Orchard street meeting-house. Thus far we deemed it right to state respecting the demise of this dedicated servant of Jesus Christ, hoping that some person having access to the requisite facts, will prepare for insertion a more extended notice.

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It will be pertinent to remark in reference to the two lectures, of which a portion was given in the last, and a continuation is in the present number, that they were delivered in the course of last winter to a crowded and gratified audience, at Friends' Reading rooms, on Appletree alley; and that the lecturer has yielded to the solicitation of several that were present at the delivery, who believed that the insertion of them in this journal would be acceptable to many.

NOTE.—In the portion of the lecture published last week, there were several typographical errors. In the 6th line in the first column "our" should have been "one." In the 2d column, 22d line from the bottom, "perhaps" should be "heaps." In the same column, 11th line from the bottom, "wash" should be "waste."

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HAVERFORD SCHOOL.

Letters and small packages for the students, may be left at the store of Kimber & Sharpless, No. 50 North Fourth street, Philadelphia, where the superintendent will send for them once a week—mostly on seventh day.

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INSTITUTE FOR COLOURED YOUTH.

The managers are desirous of procuring a suitably qualified person (a member of the Society of Friends) to have the care of, and instruct a limited number of boys at the above institution.

Applications may be forwarded to either of the undernamed committee.

George Williams, 71 north Seventh street, Philip Garrett, Noble street, first door above Sixth, Blakey Sharpless, 50 north Fourth street, M. L. Dawson, corner of Tenth and Filbert streets.

Phila. 5th mo. 30th, 1840.

DEPARTED this life, second month 29th last, after a short illness, DEBORAH, wife of Bennet Smedley, a member of Goshen Monthly, and Willistown Particular Meeting, aged 41 years. In the decease of this our valued friend, we sensibly feel that we are bereaved of one who was peculiarly gifted for usefulness in the church; entering into feeling with exercised mind, and handing a word in season to those that were weary. She loved retirement, to seek for a renewal of spiritual strength, and esteemed it a privilege to be permitted to enjoy our silent meetings. Though at seasons tried with poverty of spirit, she was enabled to rely on the mercy of God, through Jesus Christ, her redeemer, and to feel that his grace was sufficient for her.

DIED, at her residence in Adams, Mass., on first day, the 7th inst., CHARLOTTE KELLEY, a maiden lady, aged 70 years. She was a worthy member of the Society of Friends. "Sweetly she sunk to sleep in Jesus' arms."—*Pittsfield Sun.*